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## TYPHOID FEVER IN MELBOURNE IN 1878.

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The greater part of the following additional observations on the extent of Typhoid Fever in Melbourne and its suburbs, in 1878, appeared in the form of letters in *The Argus*, at dates later than the publication of the *Report* :—

Considerable misapprehension appears to prevail as to the average death-rate from typhoid fever in Melbourne and its suburbs. Thus, the report of the local health officer of Hotham, for 1878, shows that in a population of 15,500 there were during the year nine deaths from that disease. This number is at the rate of six deaths for every 10,000 persons living—a very high mortality, equalling the very worst towns in Great Britain, and yet withal the local board of health were congratulated on the healthy state of their town! No doubt the general mortality was low:  $16\frac{1}{2}$  per 10,000, owing, probably, to the absence of any unusual epidemic; but the diseases that did occur, and were ordinarily present, such as the one mentioned, would appear to have been severe.

Again, in a pamphlet lately published from the text of a lecture to a mixed audience at the Australian Health Society, on *Diseases that Should be Prevented*,

the author says, "The number of deaths from typhoid "in Melbourne is not very excessive, amounting to "about 160 in the year." The following, however, are the exact numbers, distributed in two five-year periods, as supplied to me at the Government Statist's office:—

Year.	Deaths.	Year.	Deaths.
1869 ... ..	116	1874 ... ..	216
1870 ... ..	171	1875 ... ..	200
1871 ... ..	126	1876 ... ..	160
1872 ... ..	112	1877 ... ..	249
1873 ... ..	115	1878 ... ..	307
Total ... ..		Total ... ..	
640		1132	
Yearly average		Yearly average	
128		226·4	

For the five years ending in 1873, the average annual rate was 128; while for the last five years, ending with 1878, the average annual rate was 226·4. The author of the pamphlet would appear to have taken the least number in the latter period, viz., 160, and adopted it as an average, which greatly understates the case. It cannot even be shown that any increase of population would be at all commensurate with the vast difference between the two given five-year periods.

The jump from 115 in 1873, to 216 in 1874, justifies all said by me, in my original *Report*, about the severity of the fever in 1874, and quite disproves the opinion of the Central Board of Health, that the cases were never very many, nor "widely disseminated."

In 1878 the deaths from typhoid fever in Melbourne and suburbs numbered 307, which in a population of 251,000, estimated, gives 12·23 deaths from this fever for every 10,000 persons living, a rate far exceeding that in any town in Great Britain, except when taken at their

very worst local epidemic outbreaks. The rate for the previous year, 1877, was as high as 10 for every 10,000 living, so that the year 1878 was only a degree higher, and indicating a steadily increasing high average, the extent of which it would be difficult to exaggerate, the truth being bad enough.

Aware that 1878 had been the worst year ever known in Melbourne for typhoid fever, when it was stated in the annual report of the local medical health officer for Hotham that, with a population of 16,000, only nine deaths from typhoid occurred there during 1878, it seemed to me that if the reason for the marked immunity could be found it might give a clue to the cause so active in other localities.

On going about inquiry, the first thing to be done was to verify the number stated. At the Melbourne Hospital I learned that eight deaths from typhoid had been of persons sent in from Hotham. These were registered in South Melbourne, but were really due to Hotham, and would, if added to its nine, give seventeen in all for that place. If these deaths be not so relegated, then the central district would show 56 deaths, which, in its 20,000 inhabitants, would yield 28 deaths from typhoid in every 10,000 living, although the district is in reality far lower in the typhoid fatality than many outlying divisions.

After finding this oversight, it appeared desirable to further verify the Hotham return, and on applying for the purpose to the Registrar-General, Mr. Richard Gibbs, that gentleman kindly and promptly caused to be prepared for me a complete tabulated list of all recorded deaths from typhoid fever, entered under the varied synonyms of enteric, gastric, infantile remittent, low, and typhoid fever, by which I find there were in Hotham for 1878 no fewer than 23 deaths registered instead of 9, as stated.

Added to this 23 ought to be the 8 occurring in hospital, making a total of 31 deaths for the year. In the 16,000 of population the 31 gives 19 to every 10,000 living, a rate never equalled, nor, indeed, nearly approached, in any town in Great Britain, even during the worst epidemics.

The discrepancy between the actual number and that published by authority is so great as to form a perfectly unaccountable anomaly.

The large majority of those deaths were among adults between 20 and 30 years of age.

It would almost appear as if there were some craze abroad to make Melbourne out a more salubrious town than it is in reality. What with a local health officer declaring there were only 9 where there were 31 deaths, representing not 90, but 310 cases of fever; a medical lecturer to the Australian Health Society glibly telling his audience that "typhoid fever is never very excessive, "only causing about 160 deaths a year," when the yearly average is over 226, giving 2260 cases; and a Central Board of Health reporting "the number of cases of "typhoid fever never very great," one is apt to doubt if authorities know what forms a relatively high or a low fever rate.

In estimating the extent of typhoid fever by its fatality, the only means available in the absence of a general record of zymotic disease, it is necessary to arrange separately metropolitan registration returns; for though it may in a way be enough to know that the very high rate of over 12 deaths in every 10,000 living occurred in Melbourne and suburbs in 1878, yet it would be more exact, and might lead to closer scrutiny of supposed causes, to learn the number every district contributed to the aggregate, particularly when some of the districts are from four to ten miles apart.

The following table shows the chief centres of fever, omitting places such as Brighton and Heidelberg, where no deaths were recorded; and others, such as Northcote, Brunswick, Kew, Coburg, Hawthorn, South Yarra, &c., with only from one to six deaths each. In these localities non-fatal cases also occurred, but note of them cannot be taken in calculating the degree of prevalence of fever by its known fatality.

*Number of Deaths from Typhoid Fever to every 10,000 Living in the Undermentioned Districts of Melbourne in 1878, with Corresponding Numbers for Towns in England and Scotland for Comparison.*

	Mean Population.	Deaths from Typhoid Fever.	Number to every 10,000 Living.
Hotham ... ..	15,173	32	21·09
Carlton ... ..	25,882	44	17·00
South Melbourne (ex. Hospital)	19,669	32	16·27
Sandridge ... ..	7,900	11	13·92
Collingwood ... ..	22,000	30	13·63
St. Kilda ... ..	10,000	12	12·00
Emerald Hill ... ..	25,000	27	10·80
West Melbourne ... ..	17,000	14	8·24
Richmond ... ..	20,153	15	7·44
Fitzroy ... ..	19,160	13	6·78
Prahran (ex. Hospital) ...	19,200	11	5·73
London ... ..	...	...	2·60
Croydon ... ..	...	...	5·90
Glasgow ... ..	...	...	4·90
Paisley ... ..	...	...	5·30

The data for the table were kindly supplied by the Registrar-General, Mr. Gibbs; Mr. Williams, of the Melbourne Hospital; and Mr. Anderson, of the Alfred Hospital. The information enables us to refer fatal hospital cases to their respective localities where illness began. The Alfred Hospital, like the Melbourne Hospital,

is in South Melbourne district, but its twenty deaths from typhoid were registered at Prahran, though in only three of these deaths had the patients been received from that town, seventeen of them having come from other localities, St. Kilda sending five, Melbourne three, and fever-rife Hotham one.

The population numbers are the estimated mean for 1878, supplied by the several municipal bodies to the Government Statist for the purposes of the forthcoming *Victorian Year Book*.

The numbers for the named English and Scottish towns are taken from the thirty-ninth annual report of the Registrar-General, from Mr. Baldwin Latham's *Sanitary Engineering* 1878, and from Dr. J. B. Russell's paper in the *Proceedings of the Glasgow Philosophical Society* 1878.

At Croydon typhoid fever has been very much higher (16 in 10,000, 1875) within the area of a typhoid-poisoned water service, and as high as 10 in 10,000 in one Glasgow locality during a severe outbreak caused by wholesale typhoid milk-poisoning; but in none of the worst places or times did typhoid fatality ever equal these Melbourne districts. Even the whole fever rate, including both typhus and typhoid, at Croydon, London, Bristol, or Plymouth, is only from 6 to 7 per 10,000, or about half that of our typhoid alone in 1878.

Here, then, was a death-rate from typhoid fever more than treble that given out by the local health officer; a rate so high that it has never once been equalled in any town in Great Britain, not even at Croydon, during a memorable epidemic caused by wholesale typhoid virus poisoning of the drinking water. That epidemic threw the whole country into a state of alarm and panic, evoking the most vigorous efforts to control it; but here, on the contrary, not only has the great fatality of 1878 passed

unnoticed by any publicist, but central and local boards of health and popular lecturers on public hygiene, freely congratulate one another on their typhoid fever immunity, and placidly proclaim that there never was the slightest reason for an "exaggerator" to disturb the general equanimity. The public read often enough of dire plagues at foreign parts, but hardly a word of the perennial fever at their own townsteads.

This retrospect of the past, without reference to present or future fever, shows that if people had been better advised they might have avoided the 1878 fatality, which is undoubtedly due to neglected laws of contagion. For Hotham, naturally well drained, probably lets fever discharges fall about the many rough drains that run all over its undulating site, where the typhoid virus dries into dust, to return air-borne in summer to affect the inhabitants.

To enable the people of Melbourne to lessen this very high mortality from an easily-controllable fever, they require to be informed on its causation, to erroneous views on which, and a corresponding irrational practice, is entirely due the ruling excess.

It is, therefore, gratifying to find stress laid on this point by the author of the pamphlet alluded to, the more so as the work has been reprinted, with editorial eulogy, and approval of its tenets, in the *Australian Medical Journal* for September 1878, while the text was originally read as a lecture before the Australian Health Society—an influential body of citizens, educating the public in sanitary work; and, therefore, making it all-important that they should be themselves instructed in sound scientific principles.

The words particularly referred to in the lecture are:—  
 "In the case of typhoid fever, more than any other  
 "epidemic, might good results be expected to follow.

“ It has been established that that disease is propagated  
 “ by means of the stools of persons suffering from it.  
 “ By them the soil or water is contaminated, and by  
 “ emanations from the soil, or from cesspits or drains,  
 “ or by the use of water, milk, &c., so contaminated,  
 “ healthy persons are affected. From my own observa-  
 “ tion I know that very often such discharges are simply  
 “ thrown into the gutter, to find their way no one knows  
 “ whither, but certainly often enough to cause the  
 “ occurrence of new cases.”

This is the identical proposition so often brought by me before Melbourne citizens ; and, moreover, it is stated in almost my own oft-repeated words. It is the theory of contagion enounced by a new advocate. The theory evidently grows in professional favour, and the reflective popular mind may look hopefully forward to clearer ideas of a rational etiology, and as an outcome, of a more effective preventive method.

By the light of these facts the sanitary section of the forthcoming Social Science Congress will be enabled to study the etiology of Typhoid Fever in one of the worst localities in the world for that disease.





